INTERACTIVE BOXING TRAINER

This invention is a continuation-in-part of U.S. patent application No. 10/315,257

5   BACKGROUND OF THE INVENTION

1. Fields of the Invention

The invention relates to an interactive boxing trainer, and more particularly, to a device that automatically detects and escapes from boxing gloves and shoes to improve the training effect and enhance the training fun.

10   2. Description of the Related Art

The conventional boxing exercisers belong to "in-place" device (i.e. punching bag) for boxing training. The punching bag is suspended so that it swings to and fro when punched by fists of operators. Therefore, the operator has to watch its swinging position and speed to give the next punching so as to achieve a certain

15   training effect. In practice of the basic boxing defense, both boxers duly dodge in accordance with the punching position and timing of the opponent. However, the attacking side has to grasp the attack opportunity unlike the easy practice on the punching bag.

In order to carry out "interactive practice" to command the punching timing

20   and skills, all boxers have to employ one of boxers of equal caliber to simulate the boxing match.

In consideration of many objective factors such as expenses, time, possible

injuries, it's rare for common boxers to employ the so-called "interactive practice". Particularly, the beginners can hardly command the basic punching timing and boxing skills without the interactive practice, let alone imagine the real situation in the boxing match beforehand.

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SUMMARY OF THE INVENTION

Therefore, it is a primary object of the invention to eliminate the above-mentioned drawbacks and to provide an interactive boxing trainer that utilizes the modern technique of automatic detection and automatic control for the operator to be in command of the position, the speed and the travelling path of the boxing gloves and shoes. Moreover, the instant shift of the automatic driving unit will keep the punched body away from the approaching boxing gloves and shoes. Therefore, the boxer has to use special skills (rapid movement of the feet, rapid punching of the fists, continuous punching, deceiving punching or punching according to the movement direction of the punched body) before or during punching and kicking so as to exactly hit the punched body. Therefore, the punching difficulty is increased to practice the punching skills. Furthermore, the trainee won't be injured by counterattack, and he can make practice at any time without the time restriction.

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BRIEF DESCRIPTION OF THE DRAWINGS

The accomplishment of this and other objects of the invention will become apparent from the following description and its accompanying drawings of which:

FIG. 1 is a side view of a preferred embodiment of the invention; and

FIG. 2 is a front view of the preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

5   It's to note that the invention is a continuation-in-part of U.S. patent application No. 10/315,257.

Referring to FIGS. 1 and 2, a preferred embodiment of the invention is shown. From the figures, the interactive boxing trainer includes a main frame 10, a driving unit 20, a control unit 30, a pair of boxing gloves 40 with a glove signal transmitter 42, and a pair of shoes 50 with a shoe signal transmitter 52, respectively. The main

10   frame 10 contains a longitudinal slide rail 12, a lateral slide rail 14 and a punched body 16. The punched body 16 is movable by the driving unit 20 on the longitudinal slide rail 12 and the lateral slide rail 14. Moreover, the control unit 30 is in connection with a plurality of signal receivers 32 positioned at the upper and

15   lower part of the main frame 10 so as to receive signals sent by the signal transmitters 42, 52 of the boxing gloves and shoes 40, 50, respectively. Therefore, the position, speed and travelling path of the boxing gloves and shoes 40, 50 can be detected and processed by the control unit 30 which then commands the driving unit 20 to move the punched body 16 away from the approaching gloves and shoes

20   40, 50.

In order to effectively distinguish the boxing gloves and shoes 40, 50, the signal transmitters 42, 52 give out different frequency signals. Thus, the relative distance from the boxing gloves 40 and the shoes 50 to the punched body 16 can be reckoned by the signal receivers 32 in accordance with different range of

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frequency. Thereafter, the control unit 30 gives command to the driving unit 20 to proceed with further proper reaction. Besides, pairwise signal receivers 32 can be arranged to detect different signals given out by the signal transmitters 42, 52 of the boxing gloves 40 and the shoes 50, respectively, so as to fulfill the aforementioned function. This technique belongs to the prior art so that no further descriptions thereto are given hereinafter.

Furthermore, how the control unit 30 operates the driving unit 20 and in which direction and how far the punched body 16 is moved away from the boxing gloves and shoes 40, 50, belong to the programming field so that no further descriptions thereto are given hereinafter as well.

In brief, the control unit 30 of the invention makes use of at least two pairs of signal receivers 32 at the top and bottom to interact with the signal transmitters 42, 52 for exactly measuring the position, the speed and the traveling path of the boxing gloves and shoes 40, 50. Accordingly, the dual positioning method allows a more accurate processing procedure. Besides, the driving unit 20 laterally (X-axis) and longitudinally (Y-axis) shift the punched body 16 to simulate the dodge movement of the opponent in the real boxing match. Meanwhile, the punched body 16 can be arranged to move forward and backward (Z-axis) when required.

Many changes and modifications in the above-described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly, to promote the progress in science and the useful arts, the invention is disclosed and is intended to be limited only by the scope of the appended claim.

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